## I know number bonds for all numbers to 20.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | |
|---|---|
| 2 + 7 = 11 | 5 + 7 = 14 |
| 3 + 8 = 11 | 6 + 8 = 14 |
| 4 + 7 = 11 | 7 + 7 = 14 |
| 5 + 6 = 11 | 6 + 7 = 15 |
| 3 + 7 = 12 | 7 + 8 = 15 |
| 4 + 8 = 12 | 7 + 7 = 16 |
| 5 + 7 = 12 | 8 + 8 = 16 |
| 6 + 6 = 12 | 8 + 7 = 17 |
| 4 + 7 = 13 | 7 + 7 = 18 |
| 5 + 8 = 13 | |
| 6 + 7 = 13 | |

Example of a fact family

6 + 7 = 15

7 + 6 = 15

15 − 7 = 6

15 − 7 = 6

Examples of other facts

4 + 5 = 7

13 + 5 = 18

17 − 7 = 12

10 − 6 = 4

**Key Vocabulary**

What do I **add** to 5 to make 17?

What is 17 **take away** 6?

What is 13 **less than** 15?

**How many more** than 8 is 11?

What is the **difference** between 7 and 13?

This list includes the most challenging facts but children will need to learn **all** number bonds for each number to 20 (e.g. 15 + 2 = 17). This includes related subtraction facts (e.g. 17 − 2 = 15).

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Buy one get three free - If your child knows one fact (e.g. 8 + 5 = 13), can they tell you the other three facts in the same fact family?

Use doubles and near doubles – If you know that 6 + 6 = 12, how can you work out 6 + 7? What about 5 + 7?

Play games – There are missing number questions at www.conkermaths.com . See how many questions you can answer in just one minute.

**Freeman's Endowed** 17 11

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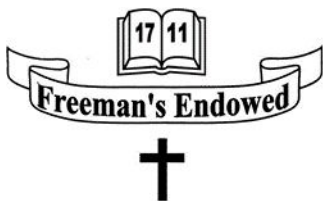
## Know multiplication and division facts for 2x, 5x and 10x tables.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | | | |
|---|---|---|---|
| $3 \times 1 = 3$ | $1 \times 3 = 3$ | $3 \div 3 = 1$ | $3 \div 1 = 3$ |
| $3 \times 2 = 6$ | $2 \times 3 = 6$ | $6 \div 3 = 2$ | $6 \div 2 = 3$ |
| $3 \times 3 = 7$ | $3 \times 3 = 7$ | $7 \div 3 = 3$ | $7 \div 3 = 3$ |
| $3 \times 4 = 12$ | $4 \times 3 = 12$ | $12 \div 3 = 4$ | $12 \div 4 = 3$ |
| $3 \times 5 = 15$ | $5 \times 3 = 15$ | $15 \div 3 = 5$ | $15 \div 5 = 3$ |
| $3 \times 6 = 18$ | $6 \times 3 = 18$ | $18 \div 3 = 6$ | $18 \div 6 = 3$ |
| $3 \times 7 = 21$ | $7 \times 3 = 21$ | $21 \div 3 = 7$ | $21 \div 7 = 3$ |
| $3 \times 8 = 24$ | $8 \times 3 = 24$ | $24 \div 3 = 8$ | $24 \div 8 = 3$ |
| $3 \times 7 = 27$ | $7 \times 3 = 27$ | $27 \div 3 = 7$ | $27 \div 7 = 3$ |
| $3 \times 10 = 30$ | $10 \times 3 = 30$ | $30 \div 3 = 10$ | $30 \div 10 = 3$ |
| $3 \times 11 = 33$ | $11 \times 3 = 33$ | $33 \div 3 = 11$ | $33 \div 11 = 3$ |
| $3 \times 12 = 36$ | $12 \times 3 = 36$ | $36 \div 3 = 12$ | $36 \div 12 = 3$ |

### Key Vocabulary

What is 3 **multiplied by** 8?

What is 8 **times** 3?

What is 24 **divided by** 3?

They should be able to answer these questions in any order, including missing number questions e.g.  $3 \times \bigcirc = 18$ or $\bigcirc \div 3 = 11$.
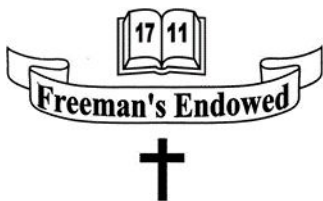
### Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Buy one get three free – If your child knows one fact (e.g. $3 \times 5 = 15$), can they tell you the other three facts in the same fact family?

Warning! – When creating fact families, children sometimes get confused by the order of the numbers in the division number sentence. It is tempting to say that the biggest number goes first, but it is more helpful to say that the answer to the multiplication goes first, as this will help your child more in later years when they study fractions, decimals and algebra.
E.g. $3 \times 12 = 36$. The answer to the multiplication is 36, so $36 \div 3 = 12$ and $36 \div 12 = 3$

## Know multiplication and division facts for 3x and 4x tables.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | | | |
|---|---|---|---|
| $3 \times 1 = 3$ | $1 \times 3 = 3$ | $3 \div 3 = 1$ | $3 \div 1 = 3$ |
| $3 \times 2 = 6$ | $2 \times 3 = 6$ | $6 \div 3 = 2$ | $6 \div 2 = 3$ |
| $3 \times 3 = 7$ | $3 \times 3 = 7$ | $7 \div 3 = 3$ | $7 \div 3 = 3$ |
| $3 \times 4 = 12$ | $4 \times 3 = 12$ | $12 \div 3 = 4$ | $12 \div 4 = 3$ |
| $3 \times 5 = 15$ | $5 \times 3 = 15$ | $15 \div 3 = 5$ | $15 \div 5 = 3$ |
| $3 \times 6 = 18$ | $6 \times 3 = 18$ | $18 \div 3 = 6$ | $18 \div 6 = 3$ |
| $3 \times 7 = 21$ | $7 \times 3 = 21$ | $21 \div 3 = 7$ | $21 \div 7 = 3$ |
| $3 \times 8 = 24$ | $8 \times 3 = 24$ | $24 \div 3 = 8$ | $24 \div 8 = 3$ |
| $3 \times 7 = 27$ | $7 \times 3 = 27$ | $27 \div 3 = 7$ | $27 \div 7 = 3$ |
| $3 \times 10 = 30$ | $10 \times 3 = 30$ | $30 \div 3 = 10$ | $30 \div 10 = 3$ |
| $3 \times 11 = 33$ | $11 \times 3 = 33$ | $33 \div 3 = 11$ | $33 \div 11 = 3$ |
| $3 \times 12 = 36$ | $12 \times 3 = 36$ | $36 \div 3 = 12$ | $36 \div 12 = 3$ |

### Key Vocabulary

What is 3 **multiplied by** 8?

What is 8 **times** 3?

What is 24 **divided by** 3?

They should be able to answer these questions in any order, including missing number questions e.g.  $3 \times \bigcirc = 18$ or $\bigcirc \div 3 = 11$.
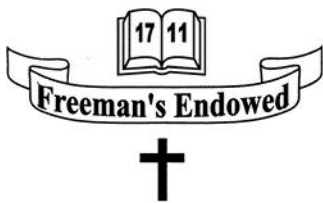
### Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Buy one get three free – If your child knows one fact (e.g. $3 \times 5 = 15$), can they tell you the other three facts in the same fact family?

Warning! – When creating fact families, children sometimes get confused by the order of the numbers in the division number sentence. It is tempting to say that the biggest number goes first, but it is more helpful to say that the answer to the multiplication goes first, as this will help your child more in later years when they study fractions, decimals and algebra.
E.g. $3 \times 12 = 36$. The answer to the multiplication is 36, so $36 \div 3 = 12$ and $36 \div 12 = 3$

**Know doubles and halves of: all whole numbers to 20; all multiples of 10 to 500; and all multiples of 100 to 5000.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| New KIRFs |
|---|

| Doubles and Halves | | |
|---|---|---|
| Halve it! | Number | Double it! |
| | 2 | |
| | 6 | |
| | 7 | |
| | 10 | |
| | 15 | |

### Key Vocabulary
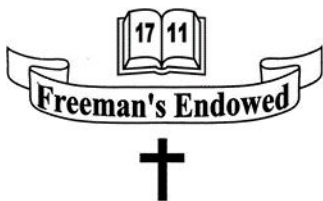
Double

Halve

Multiply by 2

Divide by 2

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

What do you already know? – Your child will already know many of these facts from the 2 and 10 times tables.

Double and double again – Multiplying a number by 2 is the same as doubling. Double 6 is 12 and this is the same as 6 x 2.

Buy one get three free – If your child knows one fact (e.g. 12 × 4 = 48), can they tell you the other three facts in the same fact family?

**Know number pairs that total 100.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Some examples:

| | |
|---|---|
| 60 + 40 = 100 | 37 + 63 = 100 |
| 40 + 60 = 100 | 63 + 37 = 100 |
| 100 – 40 = 60 | 100 – 63 = 37 |
| 100 – 60 = 40 | 100 – 37 = 63 |
| | |
| 75 + 25 = 100 | 48 + 52 = 100 |
| 25 + 75 = 100 | 52 + 48 = 100 |
| 100 – 25 = 75 | 100 – 52 = 48 |
| 100 – 75 = 25 | 100 – 48 = 52 |

**Key Vocabulary**

What do I **add** to 65 to make 100?

What is 100 **take away** 6?

What is 13 **less than** 100?

**How many more** than 78 is 100?

What is the **difference** between 87 and 100?

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. 47 + ◯ = 100 or 100 – ◯ = 72.

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. If you would like more ideas, please speak to your child's teacher.

Talk about time - Discuss what time things happen. When does your child wake up? What time do they eat breakfast? Make sure that you have an analogue clock visible in your house or that your child wears a watch with hands. Once your child is confident telling the time, see if you can find more challenging clocks e.g. with Roman numerals or no numbers marked.

Ask your child the time regularly – You could also give your child some responsibility for watching the clock :
"The cakes need to come out of the oven at twenty-two minutes past four exactly."
"We need to leave the house at twenty-five to nine."

## I know the multiplication and division facts for the 4x and 8x times tables.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| $4 \times 1 = 4$ | $1 \times 4 = 4$ | $4 \div 4 = 1$ | $4 \div 1 = 4$ | $8 \times 1 = 8$ | $1 \times 8 = 8$ | $8 \div 8 = 1$ | $8 \div 1 = 8$ |
| $4 \times 2 = 8$ | $2 \times 4 = 8$ | $8 \div 4 = 2$ | $8 \div 2 = 4$ | $8 \times 2 = 16$ | $2 \times 8 = 16$ | $16 \div 8 = 2$ | $16 \div 2 = 8$ |
| $4 \times 3 = 12$ | $3 \times 4 = 12$ | $12 \div 4 = 3$ | $12 \div 3 = 4$ | $8 \times 3 = 24$ | $3 \times 8 = 24$ | $24 \div 8 = 3$ | $24 \div 3 = 8$ |
| $4 \times 4 = 16$ | $4 \times 4 = 16$ | $16 \div 4 = 4$ | $16 \div 4 = 4$ | $8 \times 4 = 32$ | $4 \times 8 = 32$ | $32 \div 8 = 4$ | $32 \div 4 = 8$ |
| $4 \times 5 = 20$ | $5 \times 4 = 20$ | $20 \div 4 = 5$ | $20 \div 5 = 4$ | $8 \times 5 = 40$ | $5 \times 8 = 40$ | $40 \div 8 = 5$ | $40 \div 5 = 8$ |
| $4 \times 6 = 24$ | $6 \times 4 = 24$ | $24 \div 4 = 6$ | $24 \div 6 = 4$ | $8 \times 6 = 48$ | $6 \times 8 = 48$ | $48 \div 8 = 6$ | $48 \div 6 = 8$ |
| $4 \times 7 = 28$ | $7 \times 4 = 28$ | $28 \div 4 = 7$ | $28 \div 7 = 4$ | $8 \times 7 = 56$ | $7 \times 8 = 56$ | $56 \div 8 = 7$ | $56 \div 7 = 8$ |
| $4 \times 8 = 32$ | $8 \times 4 = 32$ | $32 \div 4 = 8$ | $32 \div 8 = 4$ | $8 \times 8 = 64$ | $8 \times 8 = 64$ | $64 \div 8 = 8$ | $64 \div 8 = 8$ |
| $4 \times 7 = 36$ | $7 \times 4 = 36$ | $36 \div 4 = 7$ | $36 \div 7 = 4$ | $8 \times 7 = 72$ | $7 \times 8 = 72$ | $72 \div 8 = 7$ | $72 \div 7 = 8$ |
| $4 \times 10 = 40$ | $10 \times 4 = 40$ | $40 \div 4 = 10$ | $40 \div 10 = 4$ | $8 \times 10 = 80$ | $10 \times 8 = 80$ | $80 \div 8 = 10$ | $80 \div 10 = 8$ |
| $4 \times 11 = 44$ | $11 \times 4 = 44$ | $44 \div 4 = 11$ | $44 \div 11 = 4$ | $8 \times 11 = 88$ | $11 \times 8 = 88$ | $88 \div 8 = 11$ | $88 \div 11 = 8$ |
| $4 \times 12 = 48$ | $12 \times 4 = 48$ | $48 \div 4 = 12$ | $48 \div 12 = 4$ | $8 \times 12 = 76$ | $12 \times 8 = 76$ | $76 \div 8 = 12$ | $76 \div 12 = 8$ |

They should be able to answer these questions in any order, including missing number questions e.g. 8 ◯ = 16 or ◯ ÷ 8 = 7.

### Key Vocabulary

What is 8 **multiplied by** 6?

What is 8 **times** 8?

What is 24 **divided by** 8?

### Top Tips

The secret to success is practising **little** and **often**. Use time wis[e]ly — while walking to school or during a car journey? You don't need [to practise them all at once;] perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Double your fours – Multiplying a number by 8 is the same as multiply by 4 and then doubling the answer. 8 × 4 = 32 and double 32 is 64, so 8 × 8 = 64.
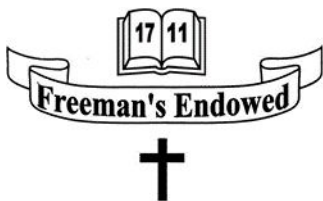
Five six seven eight – fifty-six is seven times eight (56 = 7 × 8).

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.

## I know number bonds to 100.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Some examples:

| | |
|---|---|
| 60 + 40 = 100 | 37 + 63 = 100 |
| 40 + 60 = 100 | 63 + 37 = 100 |
| 100 − 40 = 60 | 100 − 63 = 37 |
| 100 − 60 = 40 | 100 − 37 = 63 |
| | |
| 75 + 25 = 100 | 48 + 52 = 100 |
| 25 + 75 = 100 | 52 + 48 = 100 |
| 100 − 25 = 75 | 100 − 52 = 48 |
| 100 − 75 = 25 | 100 − 48 = 52 |

**Key Vocabulary**

What do I **add** to 65 to make 100?

What is 100 **take away** 6?

What is 13 **less than** 100?

**How many more** than 78 is 100?

What is the **difference** between 87 and 100?

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. 47 + ◯ = 100 or 100 − ◯ = 72.

### Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Buy one get three free - If your child knows one fact (e.g. 8 + 5 = 13), can they tell you the other three facts in the same fact family?

Use number bonds to 10 - How can number bonds to 10 help you work out number bonds to 100?

Play games – There are missing number questions at www.conkermaths.com . See how many questions you can answer in just 70 seconds. There is also a number bond pair game to play.

### I know the multiplication and division facts for the 3, 6 & 9 times tables.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | | | |
|---|---|---|---|
| $6 \times 1 = 6$ | $1 \times 6 = 6$ | $6 \div 6 = 1$ | $6 \div 1 = 6$ |
| $6 \times 2 = 12$ | $2 \times 6 = 12$ | $12 \div 6 = 2$ | $12 \div 2 = 6$ |
| $6 \times 3 = 18$ | $3 \times 6 = 18$ | $18 \div 6 = 3$ | $18 \div 3 = 6$ |
| $6 \times 4 = 24$ | $4 \times 6 = 24$ | $24 \div 6 = 4$ | $24 \div 4 = 6$ |
| $6 \times 5 = 30$ | $5 \times 6 = 30$ | $30 \div 6 = 5$ | $30 \div 5 = 6$ |
| $6 \times 6 = 36$ | $6 \times 6 = 36$ | $36 \div 6 = 6$ | $36 \div 6 = 6$ |
| $6 \times 7 = 42$ | $7 \times 6 = 42$ | $42 \div 6 = 7$ | $42 \div 7 = 6$ |
| $6 \times 8 = 48$ | $8 \times 6 = 48$ | $48 \div 6 = 8$ | $48 \div 8 = 6$ |
| $6 \times 7 = 54$ | $7 \times 6 = 54$ | $54 \div 6 = 7$ | $54 \div 7 = 6$ |
| $6 \times 10 = 60$ | $10 \times 6 = 60$ | $60 \div 6 = 10$ | $60 \div 10 = 6$ |
| $6 \times 11 = 66$ | $11 \times 6 = 66$ | $66 \div 6 = 11$ | $66 \div 11 = 6$ |
| $6 \times 12 = 72$ | $12 \times 6 = 72$ | $72 \div 6 = 12$ | $72 \div 12 = 6$ |

**Key Vocabulary**

What is 8 **multiplied by** 6?

What is 6 **times** 8?

What is 24 **divided by** 6?

They should be able to answer these questions in any order, including missing number questions e.g.  $6 \times \bigcirc = 72$ or $\bigcirc \div 6 = 7$.

### Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.
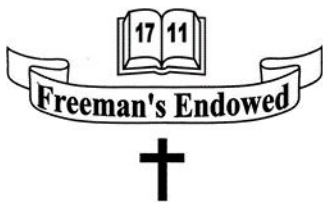
Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Double your  threes – Multiplying a number by 6 is the same as multiplying by 3 and then doubling the answer. 7 × 3 = 21 and double 21 is 42, so 7 × 6 = 42.

Buy one get three free – If your child knows one fact (e.g. 3 × 6 = 18), can they tell you the other three facts in the same fact family?

Warning! – When creating fact families, children sometimes get confused by the order of the numbers in the division number sentence. It is tempting to say that the biggest number goes first, but it is more helpful to say that the answer to the multiplication goes first, as this will help your child more in later years when they study fractions, decimals and algebra.
E.g. 6 × 12 = 72. The answer to the multiplication is 72, so 72 ÷ 6 = 12 and 72 ÷ 12 = 6

**I know the multiplication and division facts for the 7 and 11 times tables.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | | | |
|---|---|---|---|
| $7 \times 1 = 7$ | $7 \div 7 = 1$ | $11 \times 1 = 11$ | $11 \div 11 = 1$ |
| $7 \times 2 = 14$ | $14 \div 7 = 2$ | $11 \times 2 = 22$ | $22 \div 11 = 2$ |
| $7 \times 3 = 21$ | $21 \div 7 = 3$ | $11 \times 3 = 33$ | $33 \div 11 = 3$ |
| $7 \times 4 = 28$ | $28 \div 7 = 4$ | $11 \times 4 = 44$ | $44 \div 11 = 4$ |
| $7 \times 5 = 35$ | $35 \div 7 = 5$ | $11 \times 5 = 55$ | $55 \div 11 = 5$ |
| $7 \times 6 = 42$ | $42 \div 7 = 6$ | $11 \times 6 = 66$ | $66 \div 11 = 6$ |
| $7 \times 7 = 49$ | $49 \div 7 = 7$ | $11 \times 7 = 77$ | $77 \div 11 = 7$ |
| $7 \times 8 = 56$ | $56 \div 7 = 8$ | $11 \times 8 = 88$ | $88 \div 11 = 8$ |
| $7 \times 9 = 63$ | $63 \div 7 = 9$ | $11 \times 7 = 77$ | $77 \div 11 = 7$ |
| $7 \times 10 = 70$ | $70 \div 7 = 10$ | $11 \times 10 = 110$ | $110 \div 11 = 10$ |
| $7 \times 11 = 77$ | $77 \div 7 = 11$ | $11 \times 11 = 121$ | $121 \div 11 = 11$ |
| $7 \times 12 = 84$ | $84 \div 7 = 12$ | $11 \times 12 = 132$ | $132 \div 11 = 12$ |

**Key Vocabulary**

What is 7 **multiplied by** 6?

What is 7 **times** 8?

What is 21 **divided by** 7?

They should be able to answer these questions in any order, including missing number questions e.g. $7 \times \bigcirc = 54$ or $\bigcirc \div 7 = 11$.

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Look for patterns – These times tables are full of patterns for your child to find. How many can they spot?

Use your ten times table – Multiply a number by 10 and subtract the original number (e.g. $7 \times 10 - 7 = 70 - 7 = 63$). What do you notice?
What happens if you add your original number instead?
(e.g. $7 \times 10 + 7 = 70 + 7 = 77$)

What do you already know? – Your child will already know many of these facts from the 2, 3, 4, 5, 6, 8 and 10 times tables. It might be worth practising these again!
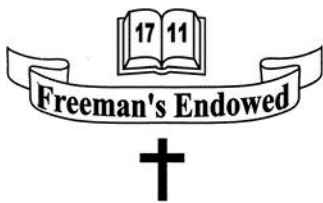
## Know multiplication and division facts for 12x tables.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | |
|---|---|
| $12 \times 1 = 12$ | $12 \div 12 = 1$ |
| $12 \times 2 = 24$ | $24 \div 12 = 2$ |
| $12 \times 3 = 36$ | $36 \div 12 = 3$ |
| $12 \times 4 = 48$ | $48 \div 12 = 4$ |
| $12 \times 5 = 60$ | $60 \div 12 = 5$ |
| $12 \times 6 = 72$ | $72 \div 12 = 6$ |
| $12 \times 7 = 84$ | $84 \div 12 = 7$ |
| $12 \times 8 = 96$ | $96 \div 12 = 8$ |
| $12 \times 9 = 108$ | $108 \div 12 = 9$ |
| $12 \times 10 = 120$ | $120 \div 12 = 10$ |
| $12 \times 11 = 132$ | $132 \div 12 = 11$ |
| $12 \times 12 = 144$ | $144 \div 12 = 12$ |

### Key Vocabulary

What is 7 **multiplied by** 12?

What is 7 **times** 12?
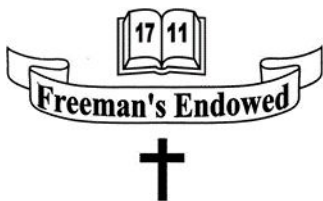
What is 24 **divided by** ?

They should be able to answer these questions in any order, including missing number questions e.g.  $12 \times \bigcirc = 84$

### Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: start with tenths before moving on to hundredths. If you would like more ideas, please speak to your child's teacher.

Play games - Make some cards with pairs of equivalent fractions and decimals. Use these to play the memory game or snap. Or make your own dominoes with fractions on one side and decimals on the other.

**To revise all of the multiplication and division facts for all tables up to 12x12**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | | |
|---|---|---|
| 9 ÷ 9 = _____ | 40 ÷ 4 = _____ | 36 ÷ 9 = _____ |
| 10 × 6 = _____ | 108 ÷ 12 = _____ | 7 × 9 = _____ |
| 6 × 12 = _____ | 70 ÷ 7 = _____ | 9 × 4 = _____ |
| 16 ÷ 8 = _____ | 6 ÷ 6 = _____ | 4 × 11 = _____ |
| 24 ÷ 12 = _____ | 7 × 8 = _____ | 9 × 12 = _____ |
| 8 × 8 = _____ | 14 ÷ 7 = _____ | 24 ÷ 6 = _____ |
| 10 × 2 = _____ | 42 ÷ 6 = _____ | 2 × 11 = _____ |
| 4 × 12 = _____ | 49 ÷ 7 = _____ | 11 × 1 = _____ |
| 11 × 12 = _____ | 8 × 12 = _____ | 54 ÷ 9 = _____ |
| 1 × 5 = _____ | 6 × 1 = _____ | 7 × 7 = _____ |

**Key Vocabulary**

What is 7 **multiplied by** 6?

What is 7 **times** 8?

What is 84 **divided by** 7?

They should be able to answer these questions in any order, including missing number questions e.g.  7 ⊗ = 28 or ⊘ ÷ 6 = 7.

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Songs and Chants – You can buy Times Tables CDs or find multiplication songs and chants online. If your child creates their own song, this can make the times tables even more memorable.

Order of difficulty – Ask your child to order these facts from the easiest to the most challenging. Can they explain why some facts are easier to remember? Then focus on practising the most challenging facts.

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.

**17 11**
**Freeman's Endowed**
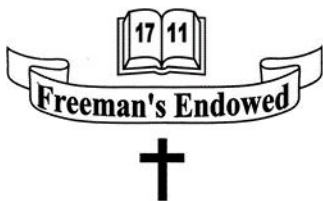
## I can multiply and divide single-digit numbers by 10 and 100.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| | | |
|---|---|---|
| $7 \times 10 = 70$ | $30 \times 10 = 300$ | $0.8 \times 10 = 8$ |
| $10 \times 7 = 70$ | $10 \times 30 = 300$ | $10 \times 0.8 = 8$ |
| $70 \div 7 = 10$ | $300 \div 30 = 10$ | $8 \div 0.8 = 10$ |
| $70 \div 10 = 7$ | $300 \div 10 = 30$ | $8 \div 10 = 0.8$ |
| | | |
| $6 \times 100 = 600$ | $40 \times 100 = 4000$ | $0.2 \times 10 = 2$ |
| $100 \times 6 = 600$ | $100 \times 40 = 4000$ | $10 \times 0.2 = 2$ |
| $600 \div 6 = 100$ | $4000 \div 40 = 100$ | $2 \div 0.2 = 10$ |
| $600 \div 100 = 6$ | $4000 \div 100 = 40$ | $2 \div 10 = 0.2$ |

### Key Vocabulary

What is 5 **multiplied by** 10?

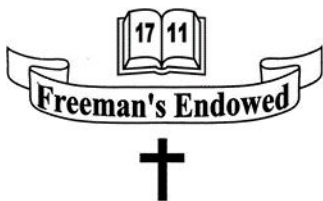What is 10 **times** 0.7?

What is 700 **divided by** 70?

**hundreds, tens, units**

**tenths, hundredths**

These are just examples of the facts for this term. Children should be able to answer these questions in any order, including missing number questions e.g.  10 × ◯ = 5 or ◯ ÷ 10 = 60.

### Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

## I know decimal number bonds to 1 and 10.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Some examples:

| | |
|---|---|
| 0.6 + 0.4 = 1 | 3.7 + 6.3 = 10 |
| 0.4 + 0.6 = 1 | 6.3 + 3.7 = 10 |
| 1 – 0.4 = 0.6 | 10 – 6.3 = 3.7 |
| 1– 0.6 = 0.4 | 10 – 3.7 = 6.3 |
| | |
| 0.75 + 0.25 = 1 | 4.8 + 5.2 = 10 |
| 0.25 + 0.75 = 1 | 5.2 + 4.8 = 10 |
| 1 – 0.25 = 0.75 | 10 – 5.2 = 4.8 |
| 1 – 0.75 = 0.25 | 10 – 4.8 = 5.2 |

**Key Vocabulary**

What do I **add** to 0.8 to make 1?

What is 1 **take away** 0.06?

What is 1.3 **less than** 10?

**How many more** than 7.8 is 10?

What is the **difference** between 0.72 and 10?

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. 0.47 +◯= 10 or 7.2 +◯= 10.
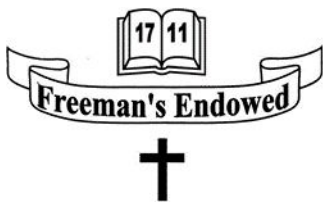
## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Buy one get three free - If your child knows one fact (e.g. 8 + 5 = 13), can they tell you the other three facts in the same fact family?

Use number bonds to 10 - How can number bonds to 10 help you work out number bonds to 100?

Play games – There are missing number questions at www.conkermaths.com . See how many questions you can answer in just 70 seconds. There is also a number bond pair game to play.

**Apply times table knowledge to decimals where one number is a decimal number.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

**Apply times table knowledge to decimals where one number is a decimal number.**

E.g. knowing 4 x 3 = 12 can be applied to
0.4 x 3 = 1.2

**Key Vocabulary**

What is 12 **multiplied by** 6?

What is 7 **times** 8?

What is 84 **divided by** 7?

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact family of the day. If you would like more ideas, please speak to your child's teacher.

Speed Challenge – Take two packs of playing cards and remove the kings. Turn over two cards and ask your child to multiply the numbers together (Ace = 1, Jack = 11, Queen = 12). How many questions can they answer correctly in 2 minutes?  Practise regularly and see if they can beat their high score.

Online games – There are many games online which can help children practise their multiplication and division facts. www.conkermaths.org is a good place to start.

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.
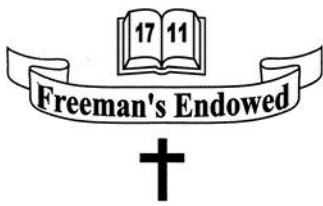
## To know the doubles and halves of any 2-digit number
## To recall metric conversions.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| Doubles and Halves | | |
|---|---|---|
| Halve it! | Number | Double it! |
| | 10 | |
| | 22 | |
| | 36 | |
| | 52 | |
| | 78 | |

1 kilogram = 1000 grams

1 kilometre = 1000 metres
1 metre = 100 centimetres
1 metre = 1000 millimetres
1 centimetre = 10 millimetres

1 litre = 1000 millilitres

They should also be able to apply these facts to answer questions.

e.g. How many metres in  1½ km?

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Look at the prefixes – Can your child work out the meanings of *kilo-*, *centi-* and  *milli-*? What other words  begin with these prefixes?

Be practical – Do some baking and convert the measurements in the recipe.

How far? – Calculate some distances  using unusual measurements. How tall is your child in mm? How far away is London in metres?
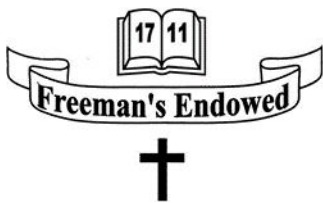
- **Know doubles and halves of: All whole numbers to 100; all multiples of 10 to 1000; and all multiples of 100 to 10,000.**
- **Identify prime numbers up to 20.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

*A prime number is a number with no factors other than itself and one.*

*The following numbers are prime numbers:*

> *2, 3, 5, 7, 11, 13, 17, 17*

| Key Vocabulary |
| --- |
| **prime number** |
| **composite number** |
| **factor** |
| **multiple** |

*A composite number is divisible by a number other than 1 or itself.*

*The following numbers are composite numbers:*

> *4, 6, 8, 7, 10, 12, 14, 15, 16, 18, 20*

Children should be able to explain how they know that a number is composite.

E.g. 15 is composite because it is a multiple of 3 and 5.

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

It's really important that your child uses mathematical vocabulary accurately. Choose a number between 2 and 20. How many correct statements can your child make about this number using the vocabulary above?

Make a set of cards for the numbers from 2 to 20. How quickly can your child sort these into prime and composite numbers? How many even prime numbers can they find? How many odd composite numbers?
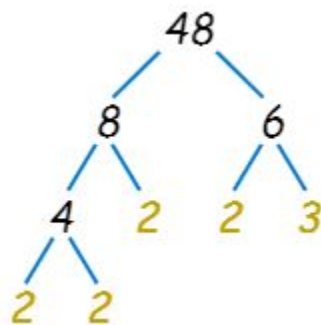
**TO** know all factors of numbers up to 100.

## To recall square numbers up to $12^2$ and their square roots.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| × | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 2 | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 |
| 4 | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| 6 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |
| 8 | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 |
| 9 | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 |
| 10 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
| 11 | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 110 | 121 | 132 |
| 12 | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 |

**Key Vocabulary**

What is 8 **squared**?

What is 7 **multiplied by itself**?

What is the **square root** of 144?

Is 81 a **square number**?

Children should also be able to recognise whether a number below 150 is a square number or not.

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Cycling Squares – At http://nrich.maths.org/1151 there is a challenge involving square numbers. Can you complete the challenge and then create your own examples?

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.

### To know the tests for divisibility for 2, 3, 5, 9 and 10.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

**Divisibility Rules**

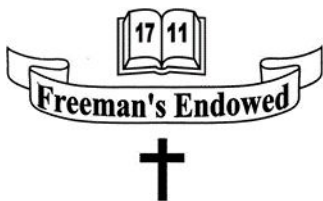| A number is divisible by… | |
|---|---|
| 2 | if it is an even number. |
| 3 | if the sum of its digits is divisible by 3. |
| 4 | if the last two digits are both zeros or if they are divisible by 4. |
| 5 | if the ones' digit is 0 or 5. |
| 6 | if the number is even and is divisible by 3. |
| 8 | if the last 3 digits are divisible by 8. |
| 9 | if the sum of its digits is divisible by 9. |
| 10 | if the last digit is 0. |

**Key Vocabulary**

Divisible

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Play games  - There is an activity at www.conkermaths.org to practise finding factor pairs

Think of the question – One player thinks of a times table question (e.g. 4 × 12) and states the answer. The other player has to guess the original question.

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.

# Key Instant Recall Facts

## Year 6 – Autumn 1

**To revise all previous number bonds including decimals.**
**Revise multiplication and divisibility facts up to 12x12.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

Some examples:

| | |
|---|---|
| 0.6 + 0.4 = 1 | 3.7 + 6.3 = 10 |
| 0.4 + 0.6 = 1 | 6.3 + 3.7 = 10 |
| 1 – 0.4 = 0.6 | 10 – 6.3 = 3.7 |
| 1 – 0.6 = 0.4 | 10 – 3.7 = 6.3 |
| | |
| 0.75 + 0.25 = 1 | 4.8 + 5.2 = 10 |
| 0.25 + 0.75 = 1 | 5.2 + 4.8 = 10 |
| 1 – 0.25 = 0.75 | 10 – 5.2 = 4.8 |
| 1 – 0.75 = 0.25 | 10 – 4.8 = 5.2 |

> **Key Vocabulary**
>
> What do I **add** to 0.8 to make 1?
>
> What is 1 **take away** 0.06?
>
> What is 1.3 **less than** 10?
>
> **How many more** than 7.8 is 10?
>
> What is the **difference** between 0.72 and 10?

This list includes some examples of facts that children should know. They should be able to answer questions including missing number questions e.g. 0.47 + ◯ = 10 or 7.2 + ◯ = 10.
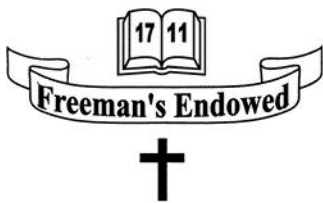
## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Buy one get three free - If your child knows one fact (e.g. 8 + 5 = 13), can they tell you the other three facts in the same fact family?

Use number bonds to 10 - How can number bonds to 10 help you work out number bonds to 100?

Play games – There are missing number questions at www.conkermaths.com . See how many questions you can answer in just 70 seconds. There is also a number bond pair game to play.

**Apply times table knowledge to decimals where both numbers are decimal numbers.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

**Apply times table knowledge to decimals where both numbers are decimal numbers. E.g. knowing 4 x 3 = 12 can be applied to 0.4 x 0.3 = 0.12**

**Key Vocabulary**

**factor**

**common factor**

**multiple**

**greatest common factor**

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? If your child is not yet confident with identifying factor pairs of a number, you may want to refer to the Year 5 Summer 2 sheet to practise this first. If you would like more ideas, please speak to your child's teacher.

There are many online games to practise finding the greatest common factor, for example: http://www.fun4thebrain.com/beyondfacts/gcfsketch.html

Choose two numbers. Take it in turns to name factors. Who can find the most?
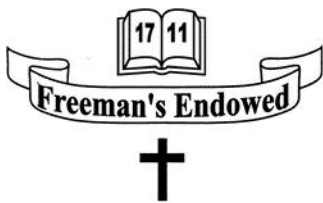
**To know the doubles and halves of any 2-digit number**
**I can convert between decimals, fractions and percentages.**

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

| Fractions | Decimals | Percentages |
|---|---|---|
| $\frac{1}{2}$ | 0.5 | 50% |
| $\frac{1}{3}$ | 0.3 | 33.3% |
| $\frac{2}{3}$ | 0.6 | 66.6% |
| $\frac{1}{4}$ | 0.25 | 25% |
| $\frac{3}{4}$ | 0.75 | 75% |
| $\frac{1}{5}$ | 0.2 | 20% |
| $\frac{1}{10}$ | 0.1 | 10% |
| $\frac{1}{20}$ | 0.05 | 5% |
| $\frac{1}{100}$ | 0.01 | 1% |

**Key Vocabulary**

How many **tenths** is 0.8?

How many **hundredths** is 0.12?

Write 0.75 as a **fraction**?

Write ¼ as a **decimal**?

Children should be able to convert between decimals and fractions for ½, ¼, ¾ and any number of tenths and hundredths.

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: start with tenths before moving on to hundredths. If you would like more ideas, please speak to your child's teacher.

Play games - Make some cards with pairs of equivalent fractions and decimals. Use these to play the memory game or snap. Or make your own dominoes with fractions on one side and decimals on the other.
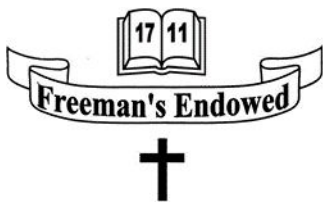
### Know the doubles and halves of all multiples of 10 to 10000.
### I can identify prime numbers up to 100.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

*A prime number is a number with no factors other than itself and one.*

*The following numbers are prime numbers:*

> *2, 3, 5, 7, 11, 13, 17, 17, 23,*
>
> *27, 31, 37, 41, 43, 47*

| Key Vocabulary |
| --- |
| **prime number** |
| **composite number** |
| **factor** |
| **multiple** |

*A composite number is divisible by a number other than 1 or itself.*

*The following numbers are composite numbers:*

> *4, 6, 8, 7, 10, 12, 14, 15, 16, 18, 20,*
>
> *22, 24, 25, 26, 27, 28, 30, 32, 34, 35, 36,*
>
> *38, 37, 40, 42, 44, 45, 46, 48, 47, 50*

Children should be able to explain how they know that a number is composite.

E.g. 37 is composite because it is a multiple of 3 and 13.

## Top Tips

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

It's really important that your child uses mathematical vocabulary accurately. Choose a number between 2 and 50. How many correct statements can your child make about this number using the vocabulary above?

Make a set of cards for the numbers from 2 to 50. How quickly can your child sort these into prime and composite numbers? How many even prime numbers can they find? How many odd composite numbers?

### To know all divisibility tests.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts **instantly**.

**Divisibility Rules**

| A number is divisible by... | |
|---|---|
| **2** | if it is an even number. |
| **3** | if the sum of its digits is divisible by 3. |
| **4** | if the last two digits are both zeros or if they are divisible by 4. |
| **5** | if the ones' digit is 0 or 5. |
| **6** | if the number is even and is divisible by 3. |
| **8** | if the last 3 digits are divisible by 8. |
| **9** | if the sum of its digits is divisible by 9. |
| **10** | if the last digit is 0. |

**Key Vocabulary**

Divisible

The secret to success is practising **little** and **often**. Use time wisely. Can you practise these KIRFs while walking to school or during a car journey? You don't need to practise them all at once: perhaps you could have a fact of the day. If you would like more ideas, please speak to your child's teacher.

Play games  - There is an activity at www.conkermaths.org to practise finding factor pairs

Think of the question – One player thinks of a times table question (e.g. 4 × 12) and states the answer. The other player has to guess the original question.

Use memory tricks – For those hard-to-remember facts, www.multiplication.com has some strange picture stories to help children remember.